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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,483	09/26/2003	Ulrich Bonne	H0006099(1100.1239101)	8252

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EXAMINER	
FITZGERALD, JOHN P	

ART UNIT	PAPER NUMBER
2856	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/672,483	BONNE, ULRICH	
	Examiner	Art Unit	
	John Fitzgerald	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 21-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 21-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 06 March 2007 have been fully considered but they are not persuasive. While all of the Applicant's arguments will be addressed below, the Examiner would like to again point out that the Applicant's instant claimed invention is an apparatus. An apparatus which is a collection of ordinary elements commonly found in the related Prior Art, such as, but not limited to, pre-concentrators, concentrators, separators, pumps, detectors/sensors/transducers, heater(s) (including individual heating elements as well as other types). While the instant invention, as claimed, has these common elements arranged in a particular fashion or order, none of the individual common elements are unique or novel. The Prior Art clearly discloses the employment of plural concentrators/pre-concentrators, separators, detectors/sensors/transducers and heaters.

2. Furthermore, the Examiner would like to point out that the instant Application has passed through a Pre-Appeal Brief request, made by the Applicant, and from which, the Examiner's rejections of the instant claims have been upheld. The Applicant's response to this was to file a Request for Continued Examination. The Examiner has rejected the instant claims, employing the same sound reasoning and Prior Art references, and the Applicant has responded with identical arguments. All of Applicant's arguments are addressed below.

3. The Applicant has repeatedly argued that the Examiner has not explained and/or supported the assertions/rejections made providing the motivation to combine the Prior Art references. The Examiner respectfully disagrees once again. The Applicant states that the Wise

et al. reference already provides for the "rapid concentration of vapors," but cannot support this allegation from the Wise et al. reference. The Applicant simply assumes that rapid concentration of vapors is occurring in the Wise et al. reference, thus rendering this argument moot, and thus the motivation to combine the Wise et al. and to Rounbehler et al. references is still considered by the Examiner to be proper. The Applicant has failed to prove otherwise.

4. In response to applicant's argument that the Prior Art references cannot be combined, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In the instant case, Applicant argues that miniature or micro devices cannot be combined with larger Prior Art devices and/or teachings. Applicant supplements this argument with the false claim that "low power" and "high power" (i.e. rapid heating) devices in Prior Art cannot be combined. The Examiner respectfully disagrees. Clearly, technology in the last decade or so has led to the miniaturization of all types of devices, as well as variations in power requirements, however, the fundamental processes underlying the operation/functioning of the devices remain basically unchanged, as well as the physical and/or chemical processes occurring within these devices. The underlying science and/or physical transformations that occur in all the Prior Art devices are equivalent. The fact that the power requirements are different from one Prior Art device to another is irrelevant. The Applicant's proposed argument would preclude the combination of any Prior Art that had a different size or power requirement, which is clearly false. One of ordinary skill in the art would

be well aware of the Prior Art, and all of it's teachings/methods and be able to employ in any type of device, miniature/micro or otherwise. The Applicant attempts to refute the Examiner's position by pointing to the Prior Art statements regarding the fast rise of temperature of Rounbehler et al. and the low-power requirements of Wise et al. The Examiner finds this argument completely unpersuasive. Applicant further argues that there is no motivation to combine the Prior Art references, suggesting that the Examiner has employed teachings from the instant specification. The Examiner completely disagrees. As pointed out in the rejection below, as well as by the Applicant, the Examiner clearly pointed out motivations to combine the references, from the Prior Art references themselves. These specific motivations do not appear in the instant specification, and as such, are proper. The Applicant cannot state where the Examiner has employed the instant specification's motivations or teachings, therefore, this argument is found to be false. It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner has clearly recited proper motivations in the Prior Art.

5. The Applicant once again alleges that the Examiner fails to provide any information as to "how" or "why" the combinations of the Prior Art can be "achieved" or "incorporated." The Examiner's function is not to provide a step-by-step combination of the Prior Art, however, the Examiner must present a clear scientific reasoning, along with proper motivation which is found in the Prior Art, and which is clearly indicated in the rejections below. The rationale to modify

or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 159 6 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). See also *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (setting forth test for implicit teachings); *In re Eli Lilly & Co.*, 902 F.2d reliance on legal precedent); *In re Nilssen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988) (references do not have to explicitly suggest combining teachings); *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Int. 1985) (examiner must present convincing line of reasoning supporting the rejection); and *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Int. 1993) (reliance on logic and sound scientific reasoning). Once again, the Examiner has stated the proper motivation regarding the combination of the Prior Art references. The Applicant cannot simply allege that the Wise et al. reference already provides for "rapid concentration of vapors" without providing any statements of fact or proof from the Wise et al. reference.

6. Furthermore, it must be stated that a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference (see *In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969)*), with skill being presumed on the part of the artisan, rather than the lack thereof (see *In re Sovish 769 F.2d 738, 742, 226 USPQ 771, 774 (Fed. Cir. 1985)*); further, references may be combined although none of them explicitly suggests combining one with the other (see *In re Nilssen 7 USPQ2d 1500 (Fed. Cir. 1989)*). It has long been the law that

the motivation to combine need not be found in prior art references, but equally can be found "in the knowledge generally available to one of ordinary skill in the art." *In re Jones, 958 F.2d 347, 351 (Fed. Cir. 1992)* (citing *In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988)*). The motivation to combine can be found either in a prior art reference, or it can be implicit in the knowledge of one of ordinary skill in the art. See *In re Huston, 308 F.3d 1267, 1280 (Fed. Cir. 2002); Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1472 (Fed. Cir. 1997).* Sources suggesting a combination may be: (1) the combined teachings of the prior art, (2) the knowledge of the ordinary practitioner and (3) the nature of the problem to be solved. "The test for implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000).* In Richard Ruiz and Foundation Anchoring Systems, Inc. v. A.B. Chance Company, No. 03-1333 (Fed. Cir. January 29, 2004), the court emphasized that an "express written teaching in the art" to combine references **was not required** (emphasis added). Rather, motivation may come from "the nature of a problem to be solved, leading inventors to look to references relating to possible solutions to that problem." In the instant case, along with the specific motivations provided in the rejection below, one of ordinary skill in the art would clearly be motivated to employ the specific teachings of the Prior Art references and make the proper combination as a result of their teachings and disclosures.

7. In specific regards to Applicant's arguments that the Phillips et al. reference, that it teaches two-dimensional chromatography and thus cannot be combined with Wise et al. and Rounbehler et al. The Examiner respectfully disagrees. Phillips et al. does in fact teach that a

"thin electrically conductive film" or "conductive wall tube/channel" wherein the heating can be varied by the thickness of the electrically conductive film, and which a "thermal gradient in time" can be created by varying the electric current through the electrically conductive film as a function of time (Phillips et al.: col. 12, lines 51-58) and thus capable of creating "moving temperature/heat/gradient" zones. Applicant's have attempted to focus on the "orthogonality" portion of the motivational statement, without any recognition of the portion that states: "to provide "thermal modulation to accumulate and focus, refocus and then accelerate a concentration pulse in the carrier stream" (Phillips et al.: col. 4, lines 55-69). The Examiner contents that this is beneficial in all chromatographic applications, not simply in "two-dimensional" applications, and thus would properly motivate one of ordinary skill in the art to employ the teachings of Phillips et al.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-9 and 21-31 are rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,838,640 to Wise et al., US 5,300,758 to Rounbehler et al. and US 5,196,039 to Philips et al. Wise et al. disclose a fluid analyzer (see Fig. 2 below) including a pump (22) a pre-concentrator (28) having a plurality of parallel channels, a multi-zone separator (31) (Fig. 4) (i.e. first and second separators, as recited in claims 3 and 29) connected to the pre-concentrator, the separator also with a plurality of parallel channels and detectors (pressure sensors and temperature sensors) as well as a plurality of individually-controllable (i.e. a controller connected, as recited in claims

5 and 27) heaters distributed along a length of the plurality of parallel channels of the separator in each zone. Wise et al. do not specifically disclose a concentrator connected to the pre-concentrator (i.e. plural concentrators) (as recited in claim 1, 21 and 27), a plurality of heater elements within the concentrator or a second plurality of heater elements with the channels of the pre-concentrator (as recited in claim 2, 4, 25, 27 and 28), first and second pumps connected to the pre-concentrator and separator (as recited in claims 6, 7, 23, 24), wherein the controller energizes the heater elements in a time phased sequence (as recited in claims 27 and 30) to provide a concentrated pulse (as recited in claim 30); and the employment of a detector/sensor/transducer between an input of the pre-concentrator and the second pump (as recited in claims 8, 26, 31).

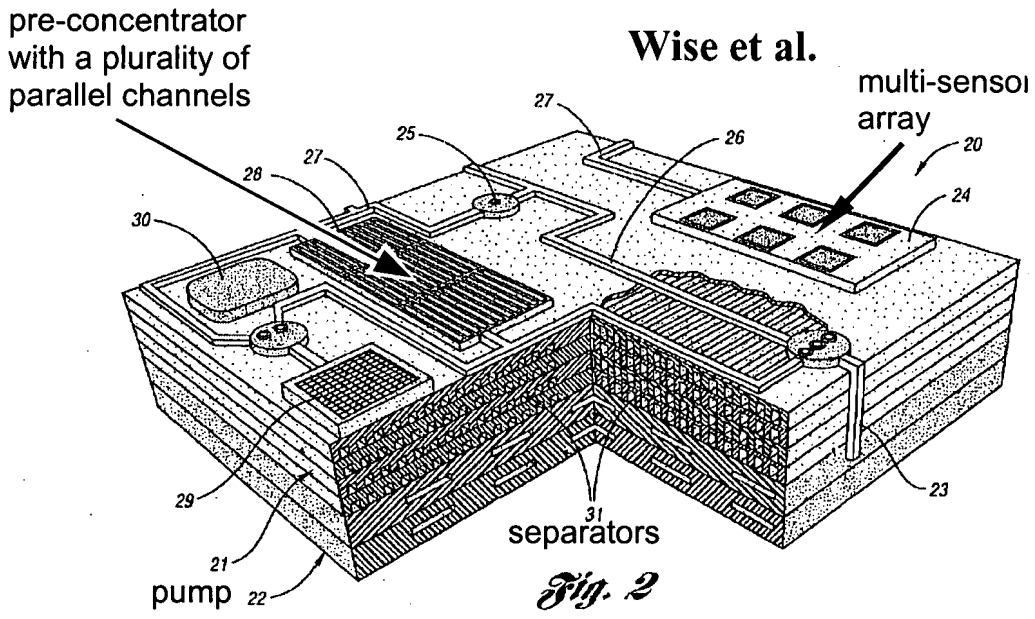


Fig. 2

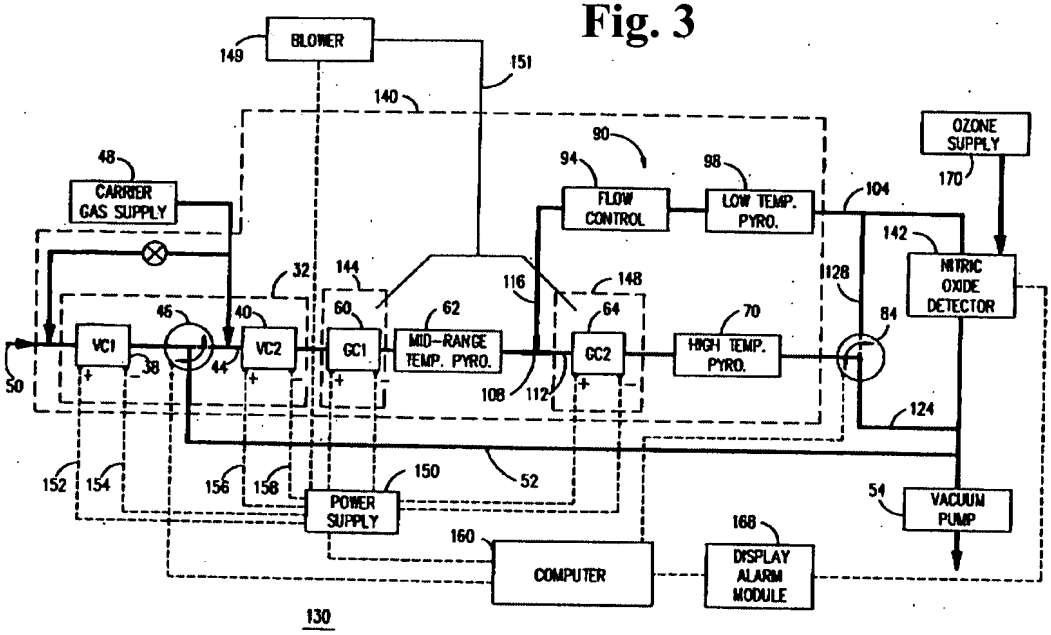
Rounbehler et al. disclose a fluid analyzer having many of the recited elements of instant claim 1 including but not limited to: a pump (54) and two separators connected to one another (60 and 64) (as recited in claims 3 and 29) as well as first and second concentrators (38, 40) connected to

one another (see Fig. 1); at least one detector (80) disposed between an input of the pre-concentrator and the pump (54) and wherein all elements of the fluid analyzer are connected to a controller (16) (see Fig. 3 below) and from which, are capable of being independently controlled (as recited in claim 21) in any desired fashion by one of ordinary skill in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ more than one concentrator connected to one another, as taught by Rounbehler et al., modifying the fluid analyzer disclosed by Wise et al., thus providing means to permit rapid concentration of vapors (Rounbehler et al.: col. 2, lines 28-31). Phillips et al. disclose a fluid analyzer (Figs. 1-4e) having many of the recited elements including a concentrator having a heater that comprises a "thin electrically conductive film" or "conductive wall tube/channel," wherein the resistance (i.e. heating) may be varied by varying the thickness of the electrically conductive film, and a "thermal gradient in time" can be created by varying the electric current through the electrically conductive film as a function of time (i.e. thermal/electrical pulses) (Philips et al.: col. 12, lines 51-58, claim 20), and thus capable of creating "moving temperature/heat/gradient zones" wherein the rate of movement is approximately the same as the fluid moving through the channel in a "time phased sequence (as recited in claims 9, 27 and 30) (Philips et al.: col. 19, lines 25-30 and col. 20, lines 19-25). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a heater as taught by Phillips et al., modifying the individual heating elements disclosed by Wise et al. and employing them within the channels of the pre-concentrator of the fluid analyzer disclosed by both Wise et al. and Rounbehler et al., thus providing a fluid analyzer to provide "thermal modulation to accumulate and focus, refocus and then accelerate a concentration pulse in the carrier stream" without the loss of orthogonality

(Phillips et al.: col. 4, lines 55-69). In specific regards to claims 6-8, 22, 23, 26 and 31, even though Rounbehler et al. disclose a detector between a pump and an inlet to the pre-concentrator, and Wise et al. disclose a sensor array (i.e. multiple pressure and temperature sensors) (24) the employment of multiple pumps and detectors at any desired location (i.e. connected to any portion/element) of a fluid analyzer would be considered well within the skill set of one of ordinary skill in the art to provide the necessary pressure gradient and movement of fluid through the fluid analyzer at a chosen/desired rate, and also providing monitoring of the fluid's physical state (i.e. pressure, temperature, elemental) within the various stages/elements of the analyzer to monitor/detect the fluid moving through the analyzer.

Rounbehler et al.

Fig. 3



Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JF
05/30/2007

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